

In re Patent Application of:
APPLETON ET AL
Serial No. 10/763,784
Filed: 01/23/2004

In the Claims:

1. (previously presented) For use with signal processing equipment having a motherboard that contains a main processing unit, said main processing unit being adapted to communicate with a daughtercard inserted into a receptacle therefor, said daughtercard containing auxiliary hardware adapted to be interfaced via associated input/output utility device ports to signal source/termination utility devices external to said signal processing equipment, a method of controlling the operation of said signal processing equipment comprising the steps of:

(a) providing said motherboard with a default operation control mechanism, which defines a first software and hardware functionality for said signal processing equipment and is executed by said motherboard in the absence of a daughtercard being coupled with said receptacle;

(b) providing said daughtercard with a replacement operation control mechanism, which defines a second software and hardware functionality for said signal processing equipment, different from said first hardware functionality, and which is to be executed by said motherboard in place of said default operation control mechanism; and

(c) causing said motherboard to execute said default operation control mechanism on said motherboard and thereby cause said signal processing equipment to acquire said first software and hardware functionality, in the absence of a daughtercard being coupled with said receptacle, but causing said motherboard to execute said replacement operation control mechanism on said daughtercard rather than said default operation control mechanism on said motherboard, and thereby cause said signal processing equipment to acquire said second software and hardware functionality, in response to said daughtercard being coupled with said receptacle; and wherein

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said signal processing equipment comprises a test apparatus for telecommunication equipment, and said daughtercard contains a telecommunication transceiver by way of which said motherboard communicates with telecommunication equipment under test by said test apparatus.

Claims 2 and 3 (cancelled).

4. (previously presented) A signal processing apparatus comprising:

a motherboard containing a main processing unit that is adapted to communicate with a daughtercard inserted into a receptacle therefor, and memory storing default application firmware which is executable by said main processing unit, and defines a first software and hardware functionality for said signal processing apparatus; and

a daughtercard containing auxiliary hardware adapted to be interfaced via associated input/output utility device ports to signal source/termination utility devices external to said signal processing apparatus, and memory storing replacement application firmware, which is executable by said main processing unit, and defines a second software and hardware functionality for said signal processing apparatus, different from said first hardware functionality; and wherein

said motherboard is operative to execute said default operation control mechanism on said motherboard and thereby cause said signal processing apparatus to acquire said first software and hardware functionality, in the absence of a daughtercard being coupled with said receptacle, and is operative to execute said replacement operation control mechanism on said daughtercard rather than said default operation control mechanism on said motherboard, and thereby cause said signal processing apparatus to acquire said second software and hardware functionality, in

response to said daughtercard being coupled with said receptacle; and wherein

said signal processing apparatus comprises a test device for telecommunication equipment, and said daughtercard contains a telecommunication transceiver by way of which said motherboard communicates with telecommunication equipment under test by said test device.

Claims 5 and 6 (cancelled).

7. (currently amended) For use with a signal processing system having a default hardware configuration and an associated default operational functionality, and including a motherboard that contains a main processing unit and associated memory that contains default system control software, which defines said default operational functionality for said signal processing system and is executed by said main processing unit of said motherboard, so as to control said default hardware configuration and associated default operational functionality of said signal processing system, in the absence of a daughtercard being inserted into a daughtercard receptacle that is coupled with said main processing unit, a method of changing the hardware configuration and operational functionality of said signal processing system from said default hardware configuration and associated default operational functionality to a different hardware configuration and a different system operational functionality, said method comprising the steps of:

(a) providing said daughtercard with on-board hardware, that is in addition to and different from hardware contained in said default hardware configuration of said signal processing system, and on-board memory, that contains replacement system control software defining said different system operational functionality and which, when executed by said main processing unit of said

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motherboard in place of said default system control software, is effective to control said different system operational functionality, including operation of said on-board hardware of said daughtercard; and

(b) in response to said daughtercard being coupled with said receptacle, causing said main processing unit of said motherboard to execute said replacement system control software contained in said on-board memory of said daughtercard, in place of said default system control software contained in said associated memory of said motherboard, and thereby cause said signal processing system to acquire said different hardware configuration and system operational functionality, so that said main processing unit of said motherboard controls said different system operational functionality, including operation of said on-board hardware of said daughtercard, exclusively by way of said replacement system control software contained in said on-board memory of said daughtercard, and wherein

said on-board hardware of said daughtercard comprises a telecommunication transceiver by way of which said motherboard communicates with telecommunication equipment under test.

Claim 8 (cancelled).

9. (currently amended) A signal processing system comprising:

a motherboard having a main processing unit and associated memory that contains default system control software, which defines default system operational functionality for said signal processing system, and is executed by said main processing unit of said motherboard so as to control a default hardware configuration and said default system operational functionality, in the absence of a daughtercard being inserted into a daughtercard receptacle coupled with said main processing unit;

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a daughtercard having on-board hardware, that is in addition to and different from hardware contained in said default hardware configuration of said signal processing system, and on-board memory, that contains replacement system control defining different system operational functionality and which, when executed by said main processing unit of said motherboard in place of said default system control software, is effective to control said different system operational functionality including operation of said on-board hardware of said daughtercard; and wherein

said main processing unit of said motherboard is operative, in response to said daughtercard being coupled with said receptacle, to execute said replacement system control software contained in said on-board memory of said daughtercard, in place of said default system control software contained in said associated memory of said motherboard, and thereby cause said signal processing system to acquire said different hardware configuration and different system operational functionality, so that said different system operational functionality, including operation of said on-board hardware of said daughtercard, is controlled by said main processing unit of said motherboard exclusively by way of said replacement system control software contained in said on-board memory of said daughtercard, and wherein

said on-board hardware of said daughtercard comprises a telecommunication transceiver by way of which said motherboard communicates with telecommunication equipment under test.

Claim 10 (cancelled).